

# Textbox

**Textbox** The `<aava-textbox>` component provides a highly sophisticated text input element with glass morphism effects, advanced content projection system, multiple processing animations, and comprehensive Angular forms integration. It supports semantic variants, validation states, and extensive customization options.

**How to use**

```
■ import { AavaTextboxComponent } from "@aava/play-core";
```

**Basic Usage**

- Simple textbox implementation with label, placeholder, and two-way data binding.

**Variants**

- The textbox component supports 6 semantic variants that control visual appearance and focus colors.

Available Variants

- default - Standard neutral appearance with brand primary focus
- primary - Primary variant with enhanced brand focus color
- success - Positive states and confirmations (green)
- error - Error states and validation failures (red)
- warning - Warning states and cautions (orange/yellow)
- info - Informational states and tips (blue)

**Sizes**

- Five size options to accommodate different interface densities and layout requirements.

Available Sizes

- xs (Extra Small) - Extra small size for very compact interfaces
- sm (Small) - Small size for dense interfaces
- md (Medium) - Medium size for most use cases (default)
- lg (Large) - Large size for prominent inputs
- xl (Extra Large) - Extra large size for emphasis and accessibility

**Icons & Affixes**

- Advanced content projection system supporting icons, prefixes, and suffixes through Angular's content projection.

**Content Projection Slots**

- icon-start - Icons at the beginning of the input
- icon-end - Icons at the end of the input
- prefix - Text or elements before the input text
- suffix - Text or elements after the input text

**Input Masking**

- Advanced input masking system powered by `ngx-mask` for formatted input patterns like phone numbers, dates, currency, and credit cards.

**Masking Features**

- **Pattern-Based Input** : Define custom input patterns using mask syntax

**Real-time Formatting** : Automatic formatting as users type

**Special Character Handling** : Control how special characters are processed

**Prefix/Suffix Support** : Add currency symbols, units, or other prefixes/suffixes

**Validation Integration** : Works seamlessly with existing validation system

**Accessibility** : Maintains proper ARIA attributes and keyboard navigation

**Common Mask Patterns**

- **Phone Numbers** : (000) 000-0000 for US format
- Dates** : 00/00/0000 for MM/DD/YYYY format
- Currency** : separator.2 with thousand separators and decimal places
- Credit Cards** : 0000 0000 0000 0000 for card number format

**Custom Patterns** : Define your own patterns using 0 , 9 , A , S

**placeholders**

**States & Validation**

- Comprehensive validation system with error messages, helper text, and various input states.

Available States

- Normal - Default input state
- Focused - Active input with enhanced border and shadow
- Disabled - Non-interactive state with dimmed appearance
- Readonly - Display-only state with modified styling
- Error - Validation error state with red styling and error message
- Required - Indicates mandatory fields with asterisk

**Validation Features**

- **Error Handling**: Error messages - Display validation errors with icon
- ARIA compliance - Proper `aria-invalid` and `aria-describedby` attributes
- Visual feedback - Error variant styling with red colors
- Icon integration - Alert icons automatically shown with errors
- Helper Text: Guidance messages - Helpful instructions below input
- Icon support - Info icons automatically shown with helper text

Conditional display - Helper text hidden when errors are present Accessibility - Proper ARIA relationships Required Fields: Visual indicators - Asterisk (\*) displayed for required fields Label integration - Required indicator integrated with label Form validation - Works with Angular form validation Processing Effects ■ Advanced processing states with multiple animation options for loading and async operations. Available Processing Effects ■ border-pulse - Pulsing border animation (default) shimmer - Text shimmer effect within input gradient-border - Animated multi-color border gradient Effects System ■ Modern effects system following Text Input Specifications for consistent visual behavior and accessibility. Hover Effects ■ tint - Subtle color tinting on hover (recommended) glow - Enhanced glow effect on hover (for interactive elements) Processing States ■ Default Processing - Border pulse animation with customizable colors Shimmer Effect - Text shimmer animation as alternative to border pulse Gradient Border - Animated multi-color gradient border for processing state Custom Colors - Configurable gradient colors for brand consistency Accessibility Features ■ High Contrast Support - Effects respect high contrast mode settings Reduced Motion - Animations respect user's motion preferences Focus Indicators - Clear focus states maintained with all effects Screen Reader Support - Proper ARIA attributes for all interactive states API Reference ■ Inputs ■ Property Type Default Description label string " Visible label text above input placeholder string " Placeholder text shown when empty variant TextboxVariant 'default' Visual variant: 'default' , 'primary' , 'success' , 'error' , 'warning' , 'info' size TextboxSize 'md' Input size: 'xs' , 'sm' , 'md' , 'lg' , 'xl' disabled boolean false Whether input is disabled readonly boolean false Whether input is read-only error string " Error message to display helper string " Helper text to display required boolean false Whether input is required fullWidth boolean false Whether input takes full container width type string 'text' HTML input type maxlength number " Maximum character length minlength number " Minimum character length autocomplete string " HTML autocomplete attribute id string " Custom element ID name string " HTML name attribute icon string " Icon name to display iconPosition 'start' | 'end' 'start' Position of the icon relative to input iconSeparator boolean false Whether to show separator between icon and input iconSpacing 'compact' | 'normal' | 'relaxed' 'normal' Icon spacing variant inputKind 'text' | 'phone' | 'currency' | 'password' 'text' Type of input for specialized behavior inputKindLabel string " Label for specialized input types (e.g., country code) phone boolean false Enable phone input functionality labelPosition 'start' | 'end' 'start' Position of country prefix label for phone inputs Masking Properties ■ Property Type Default Description mask string | null null Input mask pattern (e.g., "(000) 000-0000" for phone) maskPrefix string " Prefix to add before masked value (e.g., "\$" for currency) maskSuffix string " Suffix to add after masked value (e.g., "%" for percentage) maskDropSpecialCharacters boolean | string[] true Whether to drop special characters from value maskShowMaskTyped boolean false Show mask characters as user types maskThousandSeparator string " Thousand separator character (e.g., "," for numbers) maskDecimalMarker '.' | ',' | ['.','']' Decimal marker character maskPatterns Record<string, object> {} Custom mask patterns for special characters maskValidation boolean false Enable mask validation maskAllowNegativeNumbers boolean false Allow negative numbers in numeric masks maskLeadZeroDateTime boolean false Show leading zeros in date/time masks Effects

**System Properties** ■ Property Type Default Description hoverEffect 'tint' | 'glow' " Hover effect: Tint (recommended) or Glow pressedEffect 'solid' 'solid' Pressed effect: Solid (recommended and only allowed) processing boolean false Processing state - triggers border pulse by default processingEffect 'shimmer' " Alternative processing effect: Text shimmer animation processingGradientBorder boolean false Show animated gradient border for processing state processingGradientColors string[] ['#e91e63', '#fee140', '#ff9800', '#047857', '#ff9800', '#fee140', '#e91e63'] Colors for processing gradient border decorativeEffect 'glowBox' | 'borderFlow' | 'attention' | 'wave' " Ambient decorative effects for future use disabledState 'grey' 'grey' Disabled state appearance: Grey (recommended and only allowed) customStyles Record<string, string> " CSS custom properties override for advanced theming Outputs ■ Event Type Description iconStartClick EventEmitter<Event> Emitted when the start icon is clicked iconEndClick EventEmitter<Event> Emitted when the end icon is clicked clickOutSide EventEmitter<boolean> Emitted when a click occurs outside the input change EventEmitter<Event> Emitted when the input value changes blur EventEmitter<Event> Emitted when the input loses focus focus EventEmitter<Event> Emitted when the input gains focus input EventEmitter<Event> Emitted on every input event prefixSelect EventEmitter<{ label: string; value: string; }> Emitted when a prefix option is selected suffixSelect EventEmitter<{ label: string; value: string; }> Emitted when a suffix option is selected Properties ■ Property Type Description value string Current input value isFocused boolean Whether input currently has focus hasError boolean Whether input has error state hasHelper boolean Whether input has helper text Methods ■ Method Parameters Return Type Description setValue() value: string void Set input value programmatically writeValue() value: string void Set input value (ControlValueAccessor) registerOnChange() fn: (value: string) => void void Register change callback registerOnTouched() fn: () => void void Register touched callback setDisabledState() isDisabled: boolean void Set disabled state Content Projection Slots ■ Slot Description icon-start Icons displayed at the start of the input icon-end Icons displayed at the end of the input prefix Content displayed before the input text suffix Content displayed after the input text CSS Custom Properties ■ Property Description --textbox-glass-default-background Background color with glass effect --textbox-glass-default-blur Backdrop blur amount for glass effect --textbox-glass-default-border Border color for default state --textbox-glass-default-shadow Box shadow for glass effect --textbox-border-radius Border radius of the input container --textbox-transition Transition animation duration --textbox-input-font Font properties for input text --textbox-input-color Text color for input --textbox-input-padding Padding inside the input --textbox-input-min-height Minimum height of the input --textbox-label-font Font properties for label --textbox-label-color Text color for label --textbox-label-weight Font weight for label --textbox-placeholder-color Color for placeholder text --textbox-error-color Color for error messages and state --textbox-helper-color Color for helper text --textbox-icon-color Color for icons in normal state --textbox-icon-focus-color Color for icons when focused --textbox-variant-default Colors for default variant --textbox-variant-primary Colors for primary variant --textbox-variant-success Colors for success variant --textbox-variant-error Colors for error variant --textbox-variant-warning Colors for warning variant --textbox-variant-info Colors for info variant

--textbox-size-xs-padding Padding for extra small size --textbox-size-sm-padding Padding for small size --textbox-size-md-padding Padding for medium size --textbox-size-lg-padding Padding for large size --textbox-size-xl-padding Padding for extra large size --textbox-size-xs-height Height for extra small size --textbox-size-sm-height Height for small size --textbox-size-md-height Height for medium size --textbox-size-lg-height Height for large size --textbox-size-xl-height Height for extra large size

**Best Practices**

- **Design Guidelines**
- Choose appropriate variants - Use semantic variants that match the context
- Provide clear labels - Always include descriptive labels for accessibility
- Use helper text wisely - Provide guidance without cluttering the interface
- Handle errors gracefully - Show clear, actionable error messages
- Optimize for touch - Ensure adequate touch targets for mobile users
- Consider glass intensity - Use glass-10 for most cases, glass-50 for emphasis
- Select appropriate sizes - Use xs for very compact layouts, xl for emphasis and accessibility
- Implement masking thoughtfully - Choose mask patterns that match user expectations and data format
- Balance effects and performance - Use effects system for enhanced UX while maintaining performance
- Accessibility**

  - Proper labeling - Label elements correctly associated with inputs ARIA attributes - Use aria-invalid , aria-describedby , aria-required
  - Error announcement - Error messages announced to screen readers
  - Keyboard navigation - Full keyboard support for all interactions
  - Focus management - Visible focus indicators and proper focus order
  - Icon accessibility - Icons properly labeled and keyboard accessible

- Performance**

  - Validate appropriately - Use client and server validation together
  - Debounce input events - For real-time validation and API calls
  - Optimize re-renders - Use OnPush change detection strategy
  - Efficient icon handling - Load icons efficiently and cache appropriately

- Form Integration**

  - Test with forms - Ensure proper integration with your form handling
  - Handle validation - Implement comprehensive validation strategies
  - Consider reset behavior - Define clear reset and initial state behavior
  - Support reactive forms - Proper ControlValueAccessor implementation

- Masking Best Practices**

  - Choose intuitive patterns - Use mask patterns that users expect (e.g., phone formats)
  - Handle edge cases - Consider what happens when users paste or clear masked input
  - Provide clear examples - Use placeholders that show the expected format
  - Test accessibility - Ensure screen readers can properly announce masked input
  - Consider internationalization - Use appropriate separators and formats for different locales
  - Balance flexibility - Allow users to edit parts of masked input without losing context

```
<aava-textbox  
  label="Basic Input"  
  placeholder="Enter text here"  
  (change)="onTextboxChange($event)"  
></aava-textbox>
```

---

```
onTextboxChange(event: Event) {  
  const target = event.target as HTMLInputElement;  
  console.log('Textbox value changed:', target.value);  
}
```

```
<aava-textbox
  label="Default Variant"
  placeholder="Default variant..."
  variant="default"
  (change)="onTextboxChange($event)"
></aava-textbox>

<aava-textbox
  label="Primary Variant"
  placeholder="Primary variant..."
  variant="primary"
  (change)="onTextboxChange($event)"
></aava-textbox>

<aava-textbox
  label="Success Variant"
  placeholder="Success variant..."
  variant="success"
  (change)="onTextboxChange($event)"
></aava-textbox>

<aava-textbox
  label="Error Variant"
  placeholder="Error variant..."
  variant="error"
  (change)="onTextboxChange($event)"
></aava-textbox>

<aava-textbox
  label="Warning Variant"
  placeholder="Warning variant..."
  variant="warning"
  (change)="onTextboxChange($event)"
></aava-textbox>

<aava-textbox
  label="Info Variant"
  placeholder="Info variant..."
  variant="info"
  (change)="onTextboxChange($event)"
></aava-textbox>

---  
onTextboxChange(event: Event) {
  const target = event.target as HTMLInputElement;
  console.log('Textbox value changed:', target.value);
}
```

```
<aava-textbox
  label="Extra Small"
  placeholder="Extra Small..."
  size="xs"
></aava-textbox>

<aava-textbox label="Small" placeholder="Small..." size="sm"></aava-textbox>

<aava-textbox label="Medium" placeholder="Medium..." size="md"></aava-textbox>

<aava-textbox label="Large" placeholder="Large..." size="lg"></aava-textbox>

<aava-textbox
  label="Extra Large"
  placeholder="Extra Large..."
  size="xl"
></aava-textbox>
```

```

<aava-textbox label="Amount" placeholder="0.00" type="number" (on)>
  <span slot="prefix">$</span>
  <span slot="suffix">USD</span>
</aava-textbox>

<aava-textbox
  label="Password"
  [type]="showPassword ? 'text' : 'password'"
  placeholder="Enter password"
>
  <aava-icon
    slot="icon-end"
    [iconName]="showPassword ? 'eye' : 'eye-off'"
    (click)="togglePasswordVisibility()"
  ></aava-icon>
</aava-textbox>

<aava-textbox
  label="With Icon Separator (Start)"
  placeholder="Search..."
  [iconSeparator]="true"
>
  <aava-icon slot="icon-start" iconName="search"></aava-icon>
</aava-textbox>

<aava-textbox
  label="With Icon Separator (End)"
  placeholder="Clear..."
  [iconSeparator]="true"
>
  <aava-icon slot="icon-end" iconName="x"></aava-icon>
</aava-textbox>

---  

  showPassword = false;  

  

  togglePasswordVisibility(): void {
    this.showPassword = !this.showPassword;
  }

```

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